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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,987

01/16/2004

Ravishankar Sankaranarayanan

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08/02/2005

TEXAS INSTRUMENTS INCORPORATED

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EXAMINER

CHEN, SHIH CHAO

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary

Application No.

10/757,987

Applicant(s)

SANKARANARAYANAN,
RAVISHANKAR

Examiner

Shih-Chao Chen

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-17 is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 7, antenna elements "210-1 through 210-4" should be changed to --210-A through 210-D--

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 1 and 6, the phrase "can be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

5. Regarding claim 18, the recitation "A lens generated according to the method of claim 13" renders the claim indefinite since it is not clear whether or not it tends to providing a structure of the lens designed by the method recited in claim 13. Appropriate clarification is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (U.S. Patent No. 6,246,369).

Regarding claim 1, Brown et al. teaches in figures 1-5 an antenna [10] for use in a wireless environment, the antenna comprising: a plurality of antenna elements [16] generating a beam; and a lens [22] collimating the beam in a desired direction such that the antenna is used to send and receive signals from a desired direction.

Regarding claim 2, Brown et al. teaches in figures 1-5 the antenna of claim 1, wherein the desired direction comprises a direction in which a 'high density of wireless users are expected to be present in the wireless environment.

Regarding claim 3, Brown et al. teaches in figures 1-5 the antenna of claim 2, wherein the direction is along a road.

Regarding claim 5, Brown et al. teaches in figures 1-5 the antenna of claim 1, wherein the lens[22] covers all of the antenna elements [16] and forms a radome (See Figure 2).

Regarding claim 6, Brown et al. teaches in figures 1-5 a base station comprising: an antenna [10] containing a plurality of antenna elements [16] and a lens [22], wherein the plurality of antenna elements generate a beam and the lens collimates the beam in a desired direction such that the base station is used to send signals in the desired direction.

Regarding claim 7, Brown et al. teaches in figures 1-5 the base station of claim 6, wherein the desired direction comprises a direction in which a high density of wireless users are expected to be present.

Regarding claim 8, Brown et al. teaches in figures 1-5 the base station of claim 7, wherein the direction is along a road.

Regarding claim 12, Brown et al. teaches in figures 1-5 the base station of claim 6, further comprising: a summing block receiving a plurality of electrical signals from the antenna elements [16] and generating a broadband signal; and a receiver block generating a baseband signal from the broadband signal (See Figure 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (Cited above)

Brown et al. discloses the claimed invention except for a plurality of lens. It would have been obvious to one having ordinary skill in the art at the time the invention was made to duplication of parts, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Allowable Subject Matter

10. Claims 13-17 are allowed.

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11. Claims 10-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 13-17 is the inclusion of the limitation of step of determining a shape of the lens is determined from the characterized collimation pattern and the CRP. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.


Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Primary Examiner
Art Unit 2821


SHIH-CHAO CHEN
PRIMARY EXAMINER

SXC
July 22, 2005